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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,970	09/05/2002	Yi-Tang Wang	FTCP0007USA	7017
27765	7590	11/29/2005	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION			TSE, YOUNG TOI	
P.O. BOX 506			ART UNIT	
MERRIFIELD, VA 22116			PAPER NUMBER	

2637

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/064,970

Applicant(s)

WANG ET AL.

Examiner

YOUNG T. TSE

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the controllable capacitor arrays as recited in claim 8 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because the waveforms of DataP, DataN and DIFF shown in Figure 6 do not use the dotted line pulses as mentioned in the specification in order to distinguish the differences over the solid line pulses. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The disclosure is objected to because of the following informalities: paragraph [0023], line 1, paragraph [0026], line 7, and paragraph [0028], line 1, "Please refer" should be "Referring". Appropriate correction is required.

***Claim Objections***

4. Claims 2-3 and 5-9 are objected to because of the following informalities:

In claim 3, line 2, "transmit mode" should be "a transmit mode".

In claim 3, line 2, "idle mode to" should be "an idle mode to the".

In claim 5, line 2, "the switch from idle mode to" should be "the serial transmission line switches from the idle mode to the".

In claim 6, line 2, "comprise" should be "each comprises". Also see claims 7 and 8.

In claim 9, line 2, "comprise" should be "comprises" and lines 3 and 4, "transistors" should be "transistor".

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art of the instant application in view of Burdick et al. (US 6,661,271 B1).

With respect to claim 1, the prior art Figure 1 of the instant application discloses all the claimed subject matter of a serial transmission line for receiving serial data signals, a differential pair having a first transistor and a second transistor, the first and second transistors being connected to the transmission line for respectively producing a positive data signal and a negative data signal, the first transistor being controlled by a first control signal and the second transistor being controlled by a second control signal, a differential data signal being produced by subtracting the negative data signal from the positive data signal. However, the prior art fails to include a first delay control cell connected to the first transistor for delaying the first control signal and a second delay control cell connected to the second transistor for delaying the second control signal, wherein delay times caused by the first and second delay control cells to delay the first and second control signals are adjusted to ensure that all data pulses of the differential data signal have uniform width.

Burdick discloses an edge rate control circuit 10 in Figure 1 for controlling the edge rate of low voltage differential signals. As shown in Figure 1, the control circuit 10 is achieved by adding N parallel switches driven by a multi-phase clock through flip flops, wherein the flip flops are buffers or delay cells. The timing between the first and

last clock phase determines the edge rates of the transmitted differential waveforms. The flip flops are used to synchronize the timing between V+ and V- and can also be used to synchronize between two or more buffers. Column 1, lines 10-23.

Therefore, it would have been obvious to one of ordinary skill in the art to replace two delay cells on each side of the differential transistors in prior art Figure 1 as taught by Burdick to delay a certain amount of time for the differential data signal in order to have a uniform width of the differential data signal.

With respect to claims 2-5, the determination of the rising and falling transitions of the data pulses is shown in the prior art Figure 3, it is also the choice of design to determine how much time is needed to delay the differential data signal.

8. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art of the instant application in view of Burdick et al. as applied to claims 1 above, and further in view of Paschal et al. (US 5,789,989).

With respect to claims 6-9, as discussed to claim 1 in paragraph 7 above, although Burdick does not explicitly show or suggest the detailed embodiment of the flip flops or buffers to include resistor strings, resistor arrays, or transistors.

Paschal discloses a buffer or delay cell in Figure 1 for controlling a voltage controlled oscillator. The detailed embodiment of the buffer is shown in Figure 2, which includes at least two resistor strings R1 and R2 and two transistor differential pairs N1 and N2.

Therefore, it would have been obvious to one of ordinary skill in the art to comprise resistor strings, resistor arrays, or transistors in Burdick's flip flops in order to provide proper delay times to control the pulse width of the differential data signal.

### ***Conclusion***

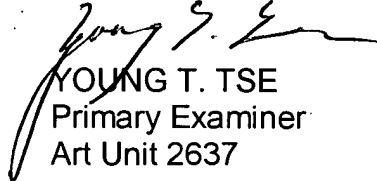
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References Kondo, Sundstrom and Haulin et al. are related to pulse delay circuits for controlling delay times of a pair of differential transistors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday-Thursday and alternative Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The Central FAX Number for the organization where this application or proceeding is assigned is (571) 273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



YOUNG T. TSE  
Primary Examiner  
Art Unit 2637